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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,719	04/01/2004	Gary R. Knowles	A11-26455-US	1027
128	7590	05/17/2005	EXAMINER	
HONEYWELL INTERNATIONAL INC. 101 COLUMBIA ROAD P O BOX 2245 MORRISTOWN, NJ 07962-2245			SAINT SURIN, JACQUES M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,719

Applicant(s)

KNOWLES ET AL.

Examiner

Jacques M. Saint-Surin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/25/05, 10/21/04, 8/23/04 and 04/01/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-6, 8, 9, 12, 13 and 15-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-27 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-9 and 12-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is responsive to the amendment of 03/04/05.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-3, 5-6, 8-9, 12-13 and 15-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No. 6,722,197 in view of Clark et al. (US Patent 6,230,563).

Regarding claim 1, Patent '197 discloses claim 1 that recite the limitations of the claim 1 of the copending application except the "wherein the first end of the at least one spring element and the second end of the at least one spring element form a straight line that comprises an axis of oscillation of the first proof mass and the second proof mass" are omitted. Clearly, applicant is attempting to obtain broader coverage in the claims of the application. Furthermore, although claim 1 of the patent '197 disclose a plurality of support arms, it does not specifically disclose at least three support arms.

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Clark shows in Fig. 9 a plurality of support arms (crab-leg suspensions formed from beams 112a, c, d, f), see: col. 7, lines 10-11. It would have been obvious to one having ordinary skill in the art to utilize in the patent '197, the support arms of Clark as taught above because they connect the proof masses to the substrate in a reliable and secure manner.

Regarding claims 5 and 6, they correspond substantially to claim 2 of the patent ('197) except for the limitations of "wherein the first end of each spring element and the second end of each spring element form a straight line that is parallel to a desired direction of oscillation of the first proof mass and the second proof mass". The omitted elements indicate that applicant is attempting to obtain broader coverage of in the claim of the application. Therefore the claims are rejected for the same reasons set forth in paragraph 3.

Regarding claims 8-9 and 12-13, they correspond substantially to claim 3 of the patent ('197) except for the limitations "wherein the first end of the at least one spring element is connected a side of the first proof mass that is closest to the second proof mass at substantially the midpoint of the side of the first proof mass and the second end of the at least one spring element is connected to a side of the second proof mass that is closest to the first proof mass at substantially the midpoint of the side of the second proof mass". The omitted elements indicate that applicant is attempting to obtain broader coverage of in the claim of the application. Therefore the claims are rejected for the same reasons set forth in paragraph 2.

Claim Rejections - 35 USC § 103

4 Claims 1, 5, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (US Patent 6,230,563) in view of Dyck et al. (US Patent 6,393,913).

Regarding claim 1, Clark et al. ('563) discloses a micromachined device (dual-mass gyroscope, see: Figs. 9 and 10), comprising: a first proof mass (Fig. 9 shows first proof mass 130a) and a second proof mass (Fig. 9 shows second proof mass 130a), the first and second proof masses (130a and 131a) each having a plurality of support arms (112a, 112c, 112d, 112f) flexibly coupling the masses (130a and 131a) to a substrate (101b). Although Clark discloses a lever, it does not specifically disclose at least one spring element having a first end and a second end, the first end of the at least one spring element connected to the first proof mass and the second end of the at least one spring element connected to the second proof mass. Dyck et al. ('913) discloses a plurality of springs and further being driven to move along the same path as the first arms in response to motion of the first mass, each spring coupling the first mass to the second mass can comprise a folded spring (i.e., a flexure). Note that when a spring is attached between two objects or masses, inherently, the spring will compress when the objects or masses are moving toward each other and will uncompress when they are moving away from each other. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Clark the spring of Dyck as taught above because the springs can bend in a plane parallel to the substrate to provide a relatively large displacement with a linear spring constant thereby making the

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above combination more effective for detecting strain, acceleration, rotation or movement in a reliable manner.

Regarding claim 5, as discussed above, it is rejected for the reasons set forth for claim 1. Furthermore, Dyck et al. shows in Fig. 10 a plurality of spring elements (16 and 24).

Regarding claims 8 and 12, as discussed above, they are rejected for the reasons set forth for claim 1. Furthermore, Clark et al. ('563) in view of Dyck shows in Fig. 9 a plurality of support arms (126a, 127a and 124a, 125a) attached to the first proof mass (130a) and the second proof mass (131a).

Regarding claims 2-3, 6, 9 and 13, Clark ('563) shows in Fig. 9 a spring element (lever 128a) having a first end connected to first proof mass 130a and a second end connected to second proof mass 131a. However, Clark et al. ('563) does not specifically suggest the first end of the at least one spring element is connected to a side of the first proof mass that is closest to the second proof mass and the second end of the at least one spring element is connected to a side of the second proof mass that is closest to the first proof mass. Thus, it would have been obvious to one of ordinary skill in the art to modify Clark for providing the claimed arrangement since applicant has not disclosed that the arrangement solves any stated problems or is for any particular purpose and it appears that the arrangement of Clark would perform equally well with the claimed arrangement.

Allowable Subject Matter

6. Claims 15-27 are allowable over the prior art of record.

Remarks

7. In response to Applicant's argument "Clark teaches away from using spring elements to connect two proof masses". The Examiner, respectfully, disagrees with Applicant's argument, because col 7, lines 10-12 discloses crab-leg suspensions formed from beams 112a, c, d, f connect the proof- masses to the substrate.

Response to Arguments

8. Applicant's arguments filed 02/25/05 have been fully considered but they are not persuasive.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M. Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Mondays through Fridays 10:30 A.M. -7:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272 2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jacques M. Saint-Surin
May 13, 2005

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

